

CLAIMS

1. A computer program product, tangibly embodied in an information carrier, for generating a data loss prevention prompt, the computer program product being operable to cause data processing apparatus to:

5 detect a client navigation event;
 without transmitting data to and from a server, detect whether there is a difference between a client data state and a base data state; and
 in response to the client navigation event, generate a user prompt if the difference between the client data state and the base data state is non-null.

10 2. The computer program product of claim 1, further comprising instructions to generate a user prompt without receiving instructions corresponding to the user prompt from an application program associated with the base data state.

3. The computer program product of claim 1, wherein the base data state comprises a state of data at a point in time when there is synchronization between a client and the server.

15 4. The computer program product of claim 1, further comprising instructions to prevent navigation associated with the navigation event.

5. The computer program product of claim 1, wherein the navigation event comprises at least one of:

20 changing an address field;
 selecting functionality to change contents displayed in a browser window;
 closing a browser window;
 selecting functionality to navigate backward;
 selecting functionality to navigate forward; and
 pressing a logoff button.

25 6. The computer program product of claim 1, further comprising instructions to store the client data state in a first data structure.

7. The computer program product of claim 6, wherein the first data structure comprises at least one of a data tree and an XML file.

8. The computer program product of claim 6, wherein instructions to detect the difference further comprise instructions to:

- 5 store the base data state in a second data structure; and
 compare contents of the first data structure to contents of the second data structure.

9. The computer program product of claim 1, wherein instructions to provide the client agent further comprise instructions to employ JavaScript code.

10 10. The computer program product of claim 1, further comprising instructions to track
changes to the client data state using the client agent.

11. The computer program product of claim 1, further comprising instructions to generate the user prompt before performing an action associated with the navigation event.

12. The computer program product of claim 1, further comprising instructions to monitor user interactions with a user interface to detect a change in a client state of application data.

15 13. The computer program product of claim 1, wherein the user prompt enables a user to
select a predetermined action.

14. The computer program product of claim 13, wherein the predetermined action comprises transmitting the difference to a server.

20 15. The computer program product of claim 1, wherein the user prompt enables a user to
select an action from a list of predefined actions, the computer program product further
comprising instructions to perform an action from the list selected by the user.

16. The computer program product of claim 16, wherein the user prompt is generated before the navigation event is completed, the computer program product further comprising instructions to perform the navigation event after the action is completed.

17. The computer program product of claim 16, wherein the list of predefined actions comprises:

transmitting the difference to a server; and
discarding the difference.

5 18. A system generating a data loss prevention prompt, the system comprising:
a client agent including:

a data manager module configured to detect a difference between a client data
state and a base data state;

10 a detection module configured to detect a navigation event without
transmitting data to and from a server; and

a generation module configured to generate a user prompt in response to the
navigation event and the difference.

19. The system of claim 18 further comprising a storage module including the client data
state.

15 20. The system of claim 18 further comprising a storage module including the base data state.

21. The system of claim 18 further comprising a client program including the client agent.

22. The system of claim 18 further comprising a client device including the client agent.

23. The system of claim 18 further comprising the server including an application having
data associated with the base data state.

20 24. The system of claim 23, wherein the user prompt is not generated in response to the
application.

25. The system of claim 18, wherein the client agent is implemented using JavaScript code.

26. A method for performing a data loss prevention action, the method comprising:

detecting a client navigation event;

detecting a difference between a client data state and a base data state without

communicating with a server; and

5 generating a user prompt in response to the detected client navigation event and the
detected difference.

27. The method of claim 26 wherein detecting a difference further comprises using a client
agent.